

# Work Order ID 75302

**\*75302\***

Page 1

October-20-11 9:59:45 AM

Item ID: D4294-1 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Fitting  
 Start Date: 20/10/2011 Start Qty: 2.00 **\*2\*** Cust Item ID:  
 Required Date: 08/11/2011 Req'd Qty: 2.00 **\*2\*** Customer:  
 Reference:

Approvals: Process Plan: M.L.J Date: 11/10/20 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D4294	C								

100 0.00  
**\*100\*** BAND SAW  
 Bandsaw Memo  
 Jeaspa Bandsaw Cut Blank to 7.125"  
 Batch: H118201  
 \*\*\*\*GRAIN ALONG 4"\*\*\*\*\*  
 0.00 OK 12/02/24 2 15

110 0.00  
**\*110\*** HAAS CNC VERTICAL MACHINING #1  
 HAAS 1 Memo  
 HAAS CNC vertical machine #1 1-Machine per folio FB008  
 DWG REV: C  
 FOLIO REV: 4A  
 0.00 OK 12/02/28 1 1 PTD

2- deburr rough edges

W/O:		75302 WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D4294-1 PAR #: \_\_\_\_\_ Fault Category: Machinery NCR: Yes No DQA: [Signature] Date: 12/03/16  
 Resolution: SCRAP Disposition: Scrap QA: N/C Closed: [Signature] Date: 12.03.06

NCR: <u>12-1245</u>		WORK ORDER NON-CONFORMANCE (NCR) <u>236.54</u>						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
12/02/28	110	1 part scrap. take 2 original at the wrong place.  R.L. operator error.	<u>[Signature]</u> 12/03/06	scrap and destroy no replace	<u>amL</u> 12/02/28	SL 12-02-29	<u>[Signature]</u> 12/03-06	<u>[Signature]</u> 12/03/06
			<u>[Signature]</u> 12/03/16 P51042				<u>[Signature]</u> 12/03/16 P51042	

NOTE: Date &amp; initial all entries

**\*75302\***

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**\*N900040100\***

Setup Start \*NS1\*

Stop \*NS2\*

**Start Date:** 20/10/2011    **Start Qty:** 2.00    **\*2\***

**Cust Item ID:**

**Required Date:** 08/11/2011      **Req'd Qty:** 2.00      **\*~\***

**Customer:**

**Reference:**

**Approvals:** \_\_\_\_\_ **Process Plan:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Tooling:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Run Start \*NR1\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop \*NR2\*

**Insp.  
Stamp**

0.00

**\*120\***

QC

## Memo

0.00

## Quality Control

0.00

\*121\*

Mill Conv

## Memo

0.00

### Conventional Milling Machine

DRILL & TAP FOR HELICOIL AS PER DWG

QC2- Inspect parts off machine FAI/FAIB

0.00

**\*122\***

QC

## Memo

0.00

## Quality Control

W/O:		WORK ORDER CHANGES					
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 75302

October-20-11 9:59:45 AM

**\*75302\***

Page 3

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Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130 QC8- Inspect parts - second check 0.00

**\*130\***

QC Memo 0.00

Quality Control

140 Chemical Conversion Coat per QSI005 4.1 0.00

**\*140\***

HandFinish Memo 0.00

Hand Finishing

145 White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum 0.00

**\*145\***

Powdercoat Memo 0.00

Powder Coating MASK THREADED HOLE

M120222

Start Time: 9:50  
 Temp: 320°F  
 Finish Time: 10:20

1X 0 M-1 12/03/02

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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## Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



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\*75302\*

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October-20-11 9:59:45 AM

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 Required Date: 08/11/2011 Req'd Qty: 2.00 \*2\* Customer:

## Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start \*NR1\*  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	Identify as per dwg & Stock Location: <u>470</u>	0.00							
*180*									
Packaging	Memo	0.00							
Packaging									
190	QC21- Final Inspection - Work Order Release	0.00							
*190*									
QC	Memo	0.00							
Quality Control									

6/14/3/6 ①

12/3/6 JD

01203-6 ①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

October-20-11 9:59:49 AM

Page 1

Work Order ID: 75302

\*75302\*

Parent Item: D4294-1

\*D4294-1\*

Parent Item Name: Fitting

Start Date: 20/10/2011

Required Date: 08/11/2011

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV:A NEW ISSUE 10-11-25 JLM VERIFIED BY:DD IPP REV  
B: AS PER REV B 11-02-15 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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MS21209F1-10

Purchased

No

Each

72.0000

2

\*MS21209F1-10\*

\*\*

HELI COIL

① FF 12-03-05

Location

Loc Qty

Loc Code

ST305

72

116977

72

21

M7075T73B4.000x4.00

Purchased

No

100

f

20.1465

0.6

1.263158

\*M7075T73B4 000x4 000\*

\*\*

7075-T73 Bar 4.0 x 4.0

Location

Loc Qty

Loc Code

MAT

5.4055

→ 118201

5.4055

MAT005

14.741

116153

0.75

116324

7.95

116764

6

116867

0.041

1.27 OK 12/02/24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

DART AEROSPACE LTD		Work Order: 75302
Description: FITTING		Part Number: D4294-1
Inspection Dwg: D4294 Rev: C		Page 1 of 1

### FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
.305	$\pm .030$ $\pm .010$	.309	—		Vern ML-06	
3.11	$\pm .030$	3.112	—		"	
.325	$\pm .010$	.327	—		"	
.780	$\pm .010$ <del>78</del>	.778	—		"	
1.560	$\pm .010$	1.558	—		"	
.500	$\pm .010$	.494	—		"	
.500	$\pm .010$	.500	—		"	
.88	$\pm .030$	.872	—		"	
3.44	$\pm .030$	3.438	—		"	
2.450	$\pm .010$	2.448	—		"	
1.528	$\pm .010$	1.528	—		"	
.300	$\pm .010$	.300	—		"	
1.46	$\pm .030$	1.455	—		"	
3.440	$\pm .010$	3.440	—		"	
6.81	$\pm .030$	6.812	—		"	
Ø.266	$\pm .006$ $\pm .001$	Ø.267	—		"	
Ø.386	$\pm .006$ $\pm .001$	Ø.386	—		"	
Ø.875	$\pm .010$ $\pm .001$	Ø.875	—		"	
Ø.750	$\pm .010$	Ø.755	—		"	
.332	$\pm .020$ $\pm .010$	.331	—		"	
.691	$\pm .010$	.692	—		"	
4.968	$\pm .010$	4.968	—		"	
.64	$\pm .030$	.638	—		"	

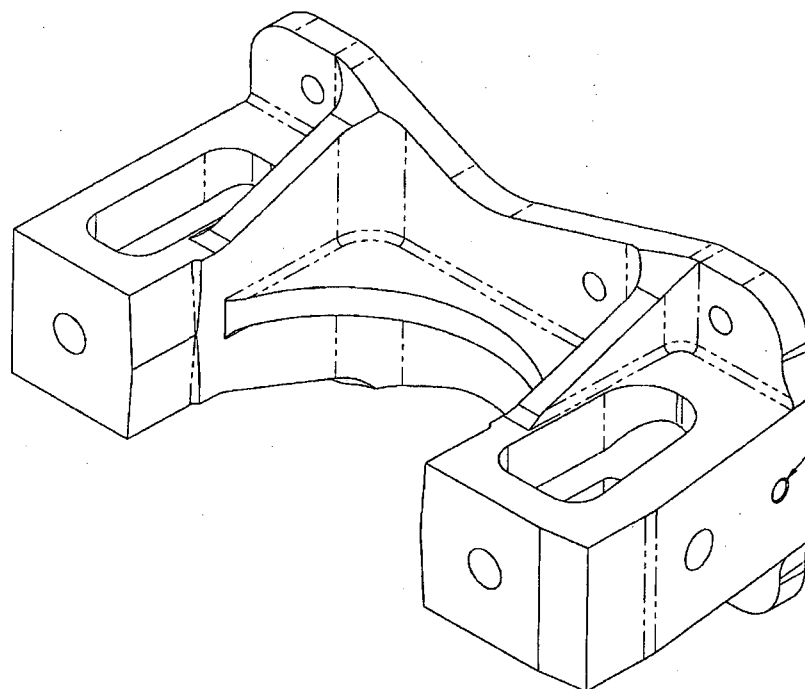
Measured by: <i>owl</i>	Audited by: <i>SL</i>	Preliminary Approval:
Date: 12/12/28	Date: 12-02-29	Date:

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

*10.04.15*







**D4294-1 FITTING**

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 75302

*M.L.S*  
*11/10/20*

MS21209F1-10 HELICAL COIL, 1X  
REF

GRAIN  
DIRECTION

**RELEASED**  
2011-02-01  
*M*

**NOTES:**

- 1) MATERIAL: 7075-T73/-T7351/-T73510/-T73511 BAR  
PER AMS-QQ-A-200/11 OR AMS-QQ-A-225/9 (AMS 4124) OR AMS-QQ-A-250/12 (AMS 4078)  
REF DART SPEC. M7075T73B
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: P/N "D4294-1" AND B/N PER DART QSI 044 6.1
- 7) WEIGHT: 1.55 lbs

C	ADD HELICAL COIL (D1-2, B4-3)	CP	11.01.14
B	0.780 WAS 0.76 (C6-2), 1.560 WAS 1.54 (C4-2)	CP	10.11.30
A	NEW ISSUE	CP	10.11.09
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN	<i>GP</i>		
CHECKED	<i>B</i>		
MFG. APPR.	<i>[Signature]</i>		
APPROVED	<i>[Signature]</i>		
DE APPR.	<i>[Signature]</i>		
DATE	11.01.14		

<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. <b>D4294</b>	REV. C
TITLE <b>FITTING (407 AFT)</b>	SHEET 1 OF 3
SCALE	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

8 7 6 5 4 3 2 1

0.065 TYP  
R0.063 TYP  
R0.063 TYP  
0.305<sup>+0.030</sup><sub>-0.010</sub>

3.17 REF  
3.11  
R0.20 TYP  
R0.40 TYP  
R0.43 3 PL  
0.88 TYP  
THRU, 2 PL  
0.500  
0.82  
0.39 TYP  
0.070  
1.560  
0.500  
0.80 TYP  
R0.063 TYP  
R0.28 TYP  
0.325  
0.780  
A2-3  
C  
C  
C6-3

Ø0.201 x 0.60 DP  
CSK Ø0.320 x 100°  
TAP FOR 10-32UNF HELICAL COIL, 0.270 DP MIN  
INSTALL MS21209F1-10 HELICAL COIL

0.764

6.81  
6.35  
2.7  
1.46  
0.050 TYP  
3.440  
R0.063 TYP  
Ø0.266 6 PL  
R0.51 2 PL  
Ø0.386 2 PL  
3.44  
2.450  
2.04  
1.528 TYP  
0.300  
A  
C SYM  
A6-3  
1.670  
R1.0  
0.25 TYP  
0.738  
3.375  
4.875  
R0.50 TYP

**D4294-1 FITTING**


DESIGN  
DRAWN  
CHECKED  
MFG. APPR.  
APPROVED  
DE APPR.  
DATE 11.01.14

DART AEROSPACE LTD  
HAWKESBURY, ONTARIO, CANADA  
DRAWING NO. D4294  
TITLE FITTING (407 AFT)  
SCALE NTS  
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REV. C  
SHEET 2 OF 3

RELEASED  
2011-02-01

RELEASE  
2011-02-01

DESIGN		<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN		DRAWING NO.	REV.
CHECKED		D4294	SHEET 2 OF
MFG. APPR.		TITLE	SCALE
APPROVED		<b>FITTING (407 AFT)</b>	NTS
DE APPR.		COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, NOR IS IT TO BE USED FOR ANY PURPOSE OR COPIED OR COLLABORATED TO ANY OTHER PERSON WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD.	
DATE	11.01.14		

W/O:		WORK ORDER CHANGES					
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## C



## A



## C



RELEASED  
2011-02-01

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